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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,414

02/02/2007

Akio Funae

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9411

2292 7590 03/21/2011  
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EXAMINER

SAFAIPOUR, BOBBAK

ART UNIT

PAPER NUMBER

2618

NOTIFICATION DATE

DELIVERY MODE

03/21/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/584,414	FUNAE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	BOBBAK SAFAIPOUR	2618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Action is in response to Applicant's response filed on 12/27/2010. Claims 1-6 are still pending in the present application.

### **Response to Arguments**

Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of **Ogino et al. (US 5,583,837; hereinafter Ogino)**.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-3 and 5-6** rejected under 35 U.S.C. 103(a) as being unpatentable over **Ogino et al. (US 5,583,837; hereinafter Ogino)** in view of **Harris et al. (US 2002/0158689 A1; hereinafter Harris)**.

Consider **claim 1**, Ogino discloses a microwave frequency converter comprising:

wherein the control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state (col. 7, lines 11-23; attenuation factor is sent to the loop gain control portion) during a period of time including a time during which a transmission section performs oscillation (col. 7, lines 13-15; where the control system is oscillating) and times thereafter and thereafter, and to be in the amplified state (col. 7, lines 23-26; amplification factor is sent to the loop gain control portion) during any period of time other than the period of time (col. 7, lines 24-32; where the control system is not oscillating); and

further wherein the amplifier does not perform attenuation when its gain value is associated with an amplified state (col. 7, lines 24-25; the amplification factor computing portion computes an amplification factor).

Ogino fails to specifically disclose an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and

a control circuit for that applies a gain control voltage to the RF amplifier .

In related art, Harris discloses an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state (paragraph 148; adjustable attenuator); and

a control circuit that applies a gain control voltage to the RF amplifier (paragraph 148).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Harris into the teachings of Ogino to provide a novel power amplifier module for amplifying an input signal.

Consider **claim 6**, Ogino discloses a microwave frequency converter comprising:

wherein the control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state (col. 7, lines 11-23; attenuation factor is sent to the loop gain control portion) during a period of time including a time during which a transmission section performs oscillation (col. 7, lines 13-15; where the control system is oscillating) and times thereafter and thereafter, and to be in the amplified state (col. 7, lines 23-26; amplification factor is sent to the loop gain control portion) during any period of time other than the period of time (col. 7, lines 24-32; where the control system is not oscillating); and

further wherein the amplifier does not perform attenuation when its gain value is associated with an amplified state (col. 7, lines 24-25; the amplification factor computing portion computes an amplification factor).

Ogino fails to specifically disclose an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and

a control circuit for that applies a gain control voltage to the RF amplifier .

In related art, Harris discloses an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state (paragraph 148; adjustable attenuator); and

a control circuit that applies a gain control voltage to the RF amplifier (paragraph 148).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Harris into the teachings of Ogino to provide a novel power amplifier module for amplifying an input signal.

Consider **claim 2**, and **as applied to claim 1 above**, Ogino, as modified by Harris, discloses the claimed invention wherein the control circuit continuously changes the gain control voltage to continuously change the gain of the RF amplifier from a predetermined gain value in the amplified state to a predetermined gain value in the attenuated state, or from a predetermined gain value in the attenuated state to a predetermined gain value in the amplified state. (col. 7, lines 10-37)

Consider **claim 3**, and **as applied to claim 1 above**, Ogino, as modified by Harris, discloses the claimed invention wherein the control circuit instantaneously changes the gain control voltage to instantaneously change the gain of the RF amplifier from a predetermined gain value in the amplified state to a predetermined gain value in the attenuated state, or from a predetermined gain value in the attenuated state to a predetermined gain value in the amplified state. col. 7, lines 10-37)

Consider **claim 6**, and **as applied to claim 5 above**, Igarashi discloses the claimed invention wherein the RF amplifier is a FET. (paragraph 131; field effect transistors)

#### **Allowable Subject Matter**

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2618

Consider **claim 4**, the best prior art of record found during the examination of the present application, **Ogino et al. (US 5,583,837; hereinafter Ogino)** in view of **Harris et al. (US 2002/0158689 A1; hereinafter Harris)**, fails to specifically disclose, teach, or suggest the claimed invention wherein the RF amplifier employs a FET device or a HEMT device which is operated by applying a negative voltage to a gate thereof and a positive voltage to a drain thereof, and the control circuit simultaneously switches ON/OFF a gate voltage and a drain voltage to be applied to the gate and the drain of the device to cause the gain of the RF amplifier to be in the attenuated state when the gate voltage and the drain voltage are switched ON, and to be in the amplified state when the gate voltage and the drain voltage are switched OFF.

### **Conclusion**

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to:**

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**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the

Art Unit: 2618

Examiner should be directed to Bobbak Safaipoor whose telephone number is (571) 270-1092.

The Examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/Bobbak Safaipoor/  
Examiner, Art Unit 2618

March 12, 2011

**/Lewis G. West/**

**Primary Examiner, Art Unit 2618**